

Sculptured Circuits

At left is a selection of sculptured flexible etched circuits for electronic systems; they are designed and manufactured by Advanced Circuit Technology (ACT), Nashua, New Hampshire. Marketed as Sculptured® Interconnects, the circuits were developed as an advancement over conventional etched circuits that lack the ability to terminate, hence require attached pins or connectors. Such added hardware is eliminated in ACT's sculptured circuits, which are made with built-in terminals. Produced by a patented manufacturing process, the company's sculptured circuits are offered in standard configurations or in custom designs to fit specific applications.

The photos illustrate some steps in ACT circuit design and manufacturing. At lower left, an engineer is designing a circuit with the aid of computer graphics; the adjacent photo shows a finished copper circuit plate; at upper right, sculptured circuits are being assembled in the company's manufacturing room; a closeup of a circuit assembly table is shown at lower right.

ACT is an example of the growing number of industrial firms taking advantage of a productivity improvement service offered by NASA through a network of user assistance centers that provide information retrieval services and technical help. The center in this case is the New England Research Applications Center (NERAC), Storrs, Connecticut. NERAC conducts computerized literature searches to find and apply technical information pertinent to a client's needs.

ACT's product research and development group regularly employs NERAC's search service to stay abreast of new developments in interconnection technology and, in particular, to find new opportunities for applying its sculptured circuit process. NERAC provides information in such areas of company interest as materials and processes used in printed circuit fabrication, new interconnection products and latest advances in manufacturing technology.

Search efforts divide into two classes: currency—aimed at company awareness of broad trends in electronics development and manufacture—and product intelligence, research of a more specific nature directly applicable to ACT development programs. NERAC furnishes abstract listings to ACT personnel, who periodically follow up with requests for full length reprints of documents that seem to warrant detailed study. ACT has several new products in development and the company reports that each of them has benefited from NERAC's computerized technology search.

